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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,070	03/25/2004	Sudhanshu Misra	577182000100	3538

25226 7590 05/15/2007
MORRISON & FOERSTER LLP
755 PAGE MILL RD
PALO ALTO, CA 94304-1018

EXAMINER

RACHUBA, MAURINA T

ART UNIT	PAPER NUMBER
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3723

MAIL DATE	DELIVERY MODE
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05/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/810,070

Applicant(s)

MISRA ET AL.

Examiner

Maurina Rachuba

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-5,7-14 and 17-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-5,7-14 and 17-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 3-5, 7-14 and 17-29 is withdrawn in view of the newly discovered reference(s) to Runnels, 6,169,931 in view of Sonderman et al, 6,802,045. Rejections based on the newly cited reference(s) follow.

Response to Amendment

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 25-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Specifically, the method claimed recites a judicial exception (abstract idea) in the form of "selecting a value..." and "optimizing the pad...". It is this examiner's position that the judicial exception is not practically applied. That is, there is no physical transformation and no useful, concrete and tangible result. The step of optimizing the pad is equivalent to "designing" the pad for a desired characteristic. This is not considered to be a tangible result. The pad is not actually manufactured. Since the claimed judicial exception is not practically applied, the claimed invention is not patent-eligible subject matter. See MPEP 2106.. Applicant may overcome this rejection by claiming the production of the optimized pad.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 3- 5, 7, 17, 18, and 25- 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Runnels, 6,169,931. '931 discloses a method of customizing a polishing pad for mechanical planarization of a substrate, the method comprising: obtaining one or more characteristics of a structure on the substrate; and selecting a value for one or more chemical or physical properties for the chemical mechanical planarization of the substrate based on the obtained one or of the structures on the substrate wherein selecting the value for one or more chemical or physical properties comprises: performing a simulation of planarization of the substrate with a model of a CMP process using the pad with a range of values for the one or more chemical or physical properties and selecting the value for the one or more chemical or physical properties based on the simulation, and wherein the one or more characteristics of the structure includes a pattern density of the structure; structure materials; pad properties including hardness, thickness, or compressibility. Please refer to figures 1 and 9 and column 3, lines 22 through column 4, lines 29, as well as the descriptions of figures 1 and 9.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 8-14, and 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Runnels, 6,169,931 in view of Sonderman et al, 6,802,045. '931 does not disclose performing a sensitivity analysis to determine a correlation between the one or more chemical or physical properties of the pad and planarization length, over- or under-polishing, or dishing and/or erosion. '045, in a similar apparatus, teaches that it is known to perform a sensitivity analysis of a CMP system to evaluate how one component in the system is sensitive to the modifications made to any other component in any one of a set of defined models. Please refer to column 8, lines 28-67. It is the examiner's position that one of ordinary skill would, given the teaching of '931 that changes in the pad effect the polishing conditions of the substrate, and the teaching of '045, to perform a sensitivity analysis to determine how the polishing conditions of the substrate are effected, find it obvious to do a sensitivity analysis to determine how modifications of the polishing pad would impact the polishing conditions of the substrate, to more efficiently polish the substrate using the most effective combination of pad properties.

Response to Arguments

9. Applicant's arguments with respect to claims 3-5, 7-14 and 17-29 have been considered but are moot in view of the new ground(s) of rejection. This action is made non-final to allow applicant fair opportunity to respond.

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Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maurina Rachuba whose telephone number is 571 272 4493. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571 272 4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Maurina Rachuba
Primary Examiner
Art Unit 3723

